

What is claimed is:

1. An injection mold comprising:

a fixed mold having a passage for introducing a fluid therethrough and an  
5 internal space;

a movable mold detachably attached to the fixed mold and forming a  
molding space together with the internal space of the fixed mold; and

a flow accelerating means provided on an inner wall of the molding space  
and accelerating flow of the fluid.

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2. The mold of claim 1, wherein the flow accelerating means is a  
solid coating material for increasing insulation of the fluid and reducing a flow  
resistance of the fluid.

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3. The mold of claim 2, wherein the solid coating material is a  
polymer coating material.

4. The mold of claim 3, wherein the polymer used for the polymer  
coating material is PEEK (Poly Ether Ether Ketone).

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5. The mold of claim 3, wherein the polymer coating material is one  
of PTFE (Polytetrafluoroethylene), PE (Polyethylene) and methacrylates.

6. The mold of claim 2, wherein the solid coating material is a  
25 ceramic coating material.

7. The mold of claim 6, wherein the ceramic coating material is one of aluminum oxide and zirconium oxide.

8. The mold of claim 2, wherein the solid coating material is a solid  
5 lubricant.

9. The mold of claim 8, wherein the solid lubricant is one of graphite, molybdenum and disulfide.

10. The mold of claim 2, wherein the solid coating material is a solid  
10 metal.

11. The mold of claim 10, wherein the solid metal is one of lead, indium, cadmium, tin and silver.

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12. A molding system comprising:

a cylinder having an inlet and an outlet;

a screw installed inside the cylinder and making a mold material and a mixture including a plastic introduced into the inlet of the cylinder flow toward the  
20 outlet;

a heater for heating the mold material and mixture introduced in the cylinder;

a fixed mold having a certain space therein and connected to the outlet of the cylinder;

25 a movable mold detachably coupled to the fixed mold and forming a

molding space together with the internal space of the fixed mold; and

a flow accelerating means provided on an inner wall of the molding space and accelerating flow of a fluid.

5           13.     The system of claim 12, wherein a foaming agent supplier is provided at the side of the inlet of the cylinder to supply a foaming agent into the cylinder.

10           14.     The system of claim 12, wherein a gas supplier is provided at the side of the inlet of the cylinder to supply a gas into the cylinder.

15           15.     The system of claim 12, wherein the flow accelerating means is a solid coating material for increasing insulation of the fluid and reducing a flow resistance of the fluid.

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16.     A molding method comprising:

coating a coating material for accelerating flow of a fluid on an inner wall of a molding space formed in an injection mold;

20           mixing a mold material and a foaming agent(or a gas) and heating the mixture to above a pre-set temperature; and

injecting the molten mixture into the molding space of the injection mold.

17.     The method of claim 16, wherein the solid coating material is a polymer coating material.

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18. The method of claim 17, wherein the polymer coating material is one of PEEK(Poly Ether Ether Ketone), PTFE (Polytetrafluoroethylene), PE (Polyethylene) and methacrylates.

5 19. A molded product comprising:

a surface layer formed as a glossy surface at the overall external surface and having a non-foam layer with a prescribed thickness starting from the glossy surface into the interior; and

a deep layer having a plurality of fine foams under the surface layer.

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20. The product of claim 19, wherein the surface layer accounts for less than 50 % of the overall volume formed by the external surface.

21. The product of claim 19, wherein a thickness of the surface layer  
15 is 0.01mm ~ 10mm.

22. The product of claim 19, wherein a diameter of the foam is 0.1 $\mu$ m ~ 1000 $\mu$ m.

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